CLAIMS

What is claimed is:

[1] A lens drive unit comprising:

a movable lens body equipped with a lens;

a drive means to move the movable lens body in an optical axis direction of the lens;

a fixing body to support the movable lens body in such a manner to enable the movable lens body to move in the optical axis direction; and

retaining a position of the movable lens body at both ends of an entire motion range in the optical axis direction;

wherein the movable lens body is equipped with a first magnetic means as the drive means;

the fixing body is equipped with a second magnetic means as the drive means which is placed so as to enable the movable lens body to move by one of magnetic attraction force and magnetic repulsion force caused between the first magnetic means and the second magnetic means; and

furthermore, the fixing body is equipped with a position retaining member to retain the movable lens body at a middle position of the entire motion range in the optical axis direction while a touching section for touching at the movable lens body is touching at the movable lens body; and one of the position retaining member and the movable lens body relatively moves so as to move the touching section for having the touching section touch at the movable lens body to retain the movable lens body at the middle position so that the number of retaining positions of the movable lens body increase from both the two ends of the entire motion range.

[2] The lens drive unit according to Claim 1:

wherein one of the position retaining member and the movable lens body rotates relatively by using the optical axis as a rotating center so as to move the touching section for having the touching section touch at the movable lens body to retain the movable lens body at the middle position.

[3] The lens drive unit according to Claim 2:

wherein the touching section is formed in a plural number in a circumferential direction.

[4] The lens drive unit according to Claim 1 through Claim 3:

wherein the first magnetic means is materialized by one of a drive magnet and a drive coil;

the second magnetic means is materialized by the other side elements of a couple of drive magnets and a couple of drive coils which are placed separately at both sides of the first magnetic means in the optical axis direction;

the middle position is materialized under a positioning condition in which the first magnetic means is in proximity to the second magnetic means; and

at the middle position, the movable lens body is touched to the touching section under forced condition, by magnetic attraction force between the drive magnet and a back yoke of the drive coil.

[5] The lens drive unit according to Claim 4:

wherein the position retaining member is located at a side of an image pickup device.

[6] The lens drive unit according to Claim 1 through Claim 5:

wherein the touching section retains the movable lens body at the middle position by touching at an end surface in the optical axis direction of the movable lens body.

[7] The lens drive unit according to Claim 1 through Claim 6:

wherein the position retaining member gets moved so as to move the touching section for having the touching section touch at the movable lens body to retain the movable lens body at the middle position.

[8] The lens drive unit according to Claim 1 through Claim 6:

wherein the movable lens body gets moved so as to move the touching section for having the touching section touch at the movable lens body to retain the movable lens body at the middle position.